ANALYSIS OF VERTEBRATE PEST CONTROL

Jim Hone

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The author's stated objective in writing this book is to "attempt to bring ecology, biometrics, economics and mathematics a bit closer together". It will probably do that. It will be useful in the planning and assessment of what is really achieved by pest control programs, in the evaluation of whether vertebrate populations really are pests and in distinguishing between controls on pests or controls on damage.

Analyses which have been made of data obtained from studies on six main topics (predation of livestock, infectious diseases, rodent damage, bird strikes on aircraft, bird damage to crops, and rabbit damage), many of which are from Australia and New Zealand, are reviewed. There are chapters on statistical analysis, economic analysis, modelling populations and damage and modelling control using these pest control studies, plus a short conclusion.

The author found that features which stood out in the analysis of vertebrate pest control studies were frequent small sample sizes, no testing of alternative hypotheses, tests of linearity conducted on data with a limited range of variation, and conclusions which were made without statistical analysis having been done. The lack of economic analyses is emphasised, and the restricted use of models is also considered to be a shortcoming. It is also stated, however, that of 75 models of disease dynamics and control, only five had any data, which perhaps indicates the theoretical approach of modelling and the apparent lack of need for data and recognising variability in it when modelling.

The need for research on the relationship between pest abundance and pest damage, and the level of pest control needed to maximise the economic benefits of control operations is strongly emphasised.

Explanations of analyses done or recommended are not consistently well explained. Most are clear and logical, but several appear to be very convoluted and are difficult to follow. This is not a book which can be read rapidly, but at least parts of it should be read by those conducting research on vertebrate pest control before they plan or undertake research programs.

Very few typographical errors were noted, and all were minor.

The differences in the expectations of many ecologists, biometricians, economists and mathematicians of the ease of data collection, ability to obtain adequate sample sizes and ability to replicate study sites may lead to differences of opinion in the feasibility of analysis of some studies, but consideration of the data needed for analysis during planning stages will minimise these and facilitate appropriate statistical analysis. This book should thus succeed in its objective of bringing the various disciplines a bit closer together.

Dr Dennis King
Agriculture Protection Board of Western Australia